12. (Twice Amended) A multiple layer polymeric film, comprising:

(a) a first barrier layer, said first barrier layer having first and second opposing surfaces;

(b) a second inner sealant layer, said second layer comprising 100% by weight of an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio about 7 to about 12 [of a polymer or copolymer formed by a polymerization reaction with a single site catalyst] said second layer adjacent to said first surface of said first layer; and

(c) a third outer layer, said third layer comprising 100% of [a polymer or copolymer formed by a polymerization reaction with a single site catalyst] an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12; said second layer adjacent to said second surface of said first layer;

wherein said film is irradiated.

Applicants have submitted a clean version of amended claims 1 and 12, each version on a separate sheet. Applicants also have submitted on a separate sheet a marked-up version of amended claims 1 and 12 entitled "*Version with Markings to Show Changes Made*".

REMARKS

Claims 1, 2, 4-13, 15, 16 and 21 are pending. Claims 1 and 12 were amended to recite the limitations of the ethylene alpha olefin copolymers formed by a polymerization reaction in the presence of a single site catalyst. In claims 1 and 12 the text "a polymer or copolymer formed by a polymerization reaction with a single site catalyst" was deleted and replaced with the text "an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12." Support for the amendments to claims 1 and 12 are found on page 14, lines 2 to 15 of the specification.

Applicants notes with appreciation that the rejections set forth in the Office Action mailed September 3, 1999 have been withdrawn.

Rejections under 35 USC §103

The Examiner rejected claims 1, 2, 4-13, 15, 16 and 21 under 35 USC §103(a) as being unpatentable over Newsome, U.S. Patent No. 4,457,960 in view of Lai et al., U.S. Patent No. 5,272,236.

In response to the above cited rejections applicants have amended claims 1 and 12 to recite the limitations of the ethylene alpha olefin copolymers formed by a polymerization reaction in the presence of a single site catalyst, wherein the ethylene alpha olefin copolymers have a molecular weight distribution of less than 2.5 and have a melt flow ratio of about 7 to about 12. The above described ethylene alpha olefin copolymers have improved and surprising properties over the ethylene alpha olefin copolymers of Newsome which are formed in the presence of a conventional catalyst. These improved properties are described on page 5, lines 21 to 26 to page 6, lines 1 to 2 and the examples of pages 17 to 20 of the instant specification. In addition, the enclosed Affidavit of Keith D. Lind under 37 CFR §1.132 shows that heat shrinkable polymeric films having a barrier layer and outer layers of a blend of EVA and an ethylene alpha olefin copolymer formed from a polymerization reaction in the presence of a single site catalyst wherein the ethylene alpha-olefin copolymers have a flow rate ratio of from 7 to 12, were compared with similar films in which the ethylene alpha-olefin copolymer formed from a polymerization reaction in the presence of a single site catalyst had a flow rate ratio of less than 7. The films made with the polymer of from 7 to 12 flow rate ratio had surprising results over the other films. The original Affidavit of Keith D. Lind was submitted during the prosecution of U.S. Application No. 08/481,685 filed June 7, 1995. The instant application is a continuing application of the 08/481,685 application.

Lai discloses linear olefin polymers having several uses, *i.e.*, fibers, films and molded parts without any teaching or suggestion as to how its linear olefin polymers could be specifically utilized in these various areas. Lai also does not disclose any advantages or disadvantages associated with the use of its linear olefin polymers in the general areas disclosed. Therefore, a reader of Lai would have no guidance on how to utilize the linear olefin polymers in any of the areas disclosed, or whether or not the use in a particular area would truly be advantageous.

While Lai discloses linear olefin polymers and some of the properties associated with these polymers, Lai does not disclose any of the problems or benefits of the use of these polymers in a multilayer film. In fact, Lai does not teach or suggest the use of these polymers in a multilayer film let alone a multilayer film having a barrier layer. Also, Lai does not teach or suggest any cross-linking properties of the linear olefin polymers or how these polymers will respond to irradiation.

Applicants submit that the present invention is not made obvious by Lai. In order to arrive at applicants' invention, applicants would have had to utilize several different application of the linear olefin polymer. These applications are the use in a multilayer film, use in a multilayer film having a barrier film and use in a multilayer layer film having a barrier layer which is irradiated. None of these applications are taught or suggested in Lai.

The Examiner rejected claims 1, 2, 4-13, 15, 16 and 21 under 35 USC §103(a) as being unpatentable over Newsome, in view of *Schut, "Enter a New Generatio of Polyolefins",* Nov. 1991, Plastics Technology or *Van Der Sanden "A New Family of Linear Ethylene Polymers with Enhanced Sealing Performance,"* Feb. 1992.

The Newsome reference has been discussed earlier in this response.

The Van der Sanden reference disclose linear ethylene polymer having lower seal initiation temperatures, toughness and strength. There is no disclosure in Van der Sanden of the flow rate ratio of the single site catalyst polymers, nor of any favorable results that arise from the use of ethylene alpha-olefin copolymers formed from a polymerization reaction in the presence of a single site catalyst having range of molecular weight distribution and flow rate ratio contained in the amended claims. Additionally, while Van der Sanden teaches the favorable property of narrow molecular weight distribution, it does not teach the particular range recited in the amended claims.

The Schut reference discloses polyethylenes made using a homogeneous metallocene catalyst having certain improved properties. The reference further discloses that these polyethylenes may have many applications depending on the process. The Schut reference does not teach or suggest applicant's multilayer, irradiated film having the particular physical characteristics which are described in amended claims 1 and 12.

It is respectfully submitted that in view of the Affidavit of Keith D. Lind under 37 CFR §132 and the remarks presented above the rejection of claims 1, 2, 4-13, 15, 16 and 21 over Newsome in view of Lai and Newsome in view of Schut and Van der Sanden have been overcome.

Applicants respectfully submit that the claims, as amended, distinctly define the present invention from any of the art of record taken singly or in combination for the reasons that were presented above.

In view of the foregoing remarks and amendments, applicants respectfully submit that all of the claims in the application are in allowable form and that the application is now in condition for allowance.

Respectfully submitted,

Date: February 23, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A multiple layer polymeric film, comprising:

(a) a first barrier layer, said first barrier layer having two opposing surfaces; and

(b) second and third layers, said first barrier layer being disposed between said second and third layer, said second and third layers comprising [a polymer or copolymer formed by a polymerization reaction with a single site catalyst] an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12;

wherein said film is irradiated.

12. (Twice Amended) A multiple layer polymeric film, comprising:

(a) a first barrier layer, said first barrier layer having first and second opposing surfaces;

(b) a second inner sealant layer, said second layer comprising 100% by weight of an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio about 7 to about 12 [of a polymer or copolymer formed by a polymerization reaction with a single site catalyst] said second layer adjacent to said first surface of said first layer; and

(c) a third outer layer, said third layer comprising 100% of [a polymer or copolymer formed by a polymerization reaction with a single site catalyst] an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12; said second layer adjacent to said second surface of said first layer;

wherein said film is irradiated.

PLEASE REPLACE CLAIM 1 WITH THE FOLLOWING CLAIM

1. A multiple layer polymeric film, comprising:

(a) a first barrier layer, said first barrier layer having two opposing surfaces; and

(b) second and third layers, said first barrier layer being disposed between said second and third layer, said second and third layers comprising an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12;

wherein said film is irradiated.

PLEASE REPLACE CLAIM 12 WITH THE FOLLOWING CLAIM

12. A multiple layer polymeric film, comprising:

(a) a first barrier layer, said first barrier layer having first and second opposing surfaces;

(b) a second inner sealant layer, said second layer comprising 100% by weight of an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio about 7 to about 12 said second layer adjacent to said first surface of said first layer; and

(c) a third outer layer, said third layer comprising 100% of an ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst, said ethylene alpha-olefin copolymer having a molecular weight distribution of less than 2.5 and a I_{10}/I_2 ratio of about 7 to 12; said second layer adjacent to said second surface of said first layer;

wherein said film is irradiated.